## FARM, GARDEN AND HOUSEHOLD.

### Sand for a Clay Soil.

Twenty-four years ago, says a writer in an exchange, we had three or four inches of sand carted on part of a garden, the soil of which was too clayey for the successful or convenient raising of garden vegetables. When this sand was well worked in, the whole became an excellent sandy loam, just the soil for agreeable working. The labor of drawing on the sand was considerable; but it was done in winter, when there was little else for the man and team to do, and the fine condition of the soil remains as good as at first, and probably will for a century to come, as the sand does not evaporate, wash away or become consumed in the growth of plants, as will manure.

### The Profits of Eggs.

The *Poultry World* thinks it more profitable to raise eggs than chickens. This is what it says: We make no allusion to those large establishments where raising chickens as chickens for a near city market is undoubtedly a paying business. But we address the common poultry-raiser, living perhaps a considerable distance from market, who wishes to make the most of his stock. And to such we say raise every pullet your premises will accommodate. Treat them in such a manner that they will lay early and constantly through the winter, and you will make more money than you can by raising chickens to sell for broilers, unless at the fancy prices that such things bring in cities. Most country breeders have no such market for what they chance to have to sell, and the small prices they obtain at a country hotel or the house of the wealthy citizen, by no means pays for the extra trouble and care that early chickens cost. Of course, if you have a large number of fowls, there would necessarily be cockerels and old hens to fatten for sale, but do not make it your business to sell dead stock instead of making live hens give you hundreds of eggs every year of their lives."

### Self-Cleaning Cisterns.

Not one farmer in one hundred knows how to manage a cistern so as to keep the water in it pure and wholesome. The majority use the water so long as it can be tolerated. Then when the odor becomes intolerable the cistern is cleaned out.

The chief sources of impure water in cisterns are the inflowing of filth from the outside, gaseous contamination from any sewer or cesspool near at hand and decaying organic matter from the gutters and water pipes. The remedies are obvious; construct the cistern so as to exclude all outside contaminations and keep the roofs and gutters, down which the rain washes into the cistern, clean and free from fallen leaves, etc.

Professor R. C. Kedzie, of the Michigan Agricultural college, has given the subject of cisterns and their contents much study and investigation. He says that examination and analyses have proved that the purest water is always at the top and the foulest at the bottom of the cistern, hence by keeping the receiving end of the pump-pipe near the surface of the water one may avoid most of these impurities. The pipe may be kept near the surface by attaching it to a float. A two-gallon jug, closed with a good cork, well waxed over, makes an efficient float. Wire the end of the lead pipe to the handle so that the jug will float with the mouth down and keep the pipe within a foot or two of the surface of the water.

Professor Kedzie recommends, also, that cisterns be made self-cleansing by means of an overflow pipe to carry off impurities from the bottom. The overflow pipe may be of tin or galvanized iron in the shape of the letter f, three inches in diameter; the bottom of the f reaching within two inches of the bottom of the cistern and the upper part of the tube passing water-tight through the wall of the cistern up to the height it is desired to limit the filling of the cistern. When the cistern fills to the top of the tube the excess of water will flow away through the pipe, but all the water that escapes must come from the bottom, thereby removing foul water and accumulated filth. A cistern constructed so as to exclude vermin, made frost-tight, with overflow pipe to carry off impurities from the bottom and the pump-pipe wired to a jug-float, so as to keep the receiving end near to the surface, will keep in good condition an indefinite length of time and provide water that is wholesome.—*New York World.*

### The Value of Green Manures.

Farmers have an exceedingly inadequate idea of the value of green manures. One who will sow his seed and wait patiently for the crop will be too impatient to grow a crop of rye or corn or clover to be plowed under to enrich the soil, and return its rich harvest another year. Another will spend hundreds of dollars for purchased manure or fertilizers, but will not spend tens in growing a crop to plow into the soil for the same purpose. And there are farmers who have determined to plow under a clover sod and have top-dressed in the fall or winter with this intention, but who have lost heart when they have seen a luxuriant growth on the ground, which seemed to be "a waste of good fodder," as they have said, and so they have waited and have either pastured it or mowed it off and robbed the soil of food which it sorely needed. This would seem quite different if farmers would think of their soil as something to be fed and supported to enable it to yield its produce, as much as a cow that yields milk or a sheep that yields wool. There are some close analogies between our fields and our animals. An animal is a machine—if we like to call it so—by which we make salable products from raw materials. It is inexhaustible for its term of life so long as it is fed; but it is really inexhaustible in fact, because, before its useful life ends, it reproduces itself several times and simply becomes a link in a chain which we may draw out indefinitely without reaching the end of it. So that in this view of it even an animal is inexhaustible so long as it is fed. And so is the soil, and no more and no longer, and, indeed, if it is not fed, a field will be mere dead, useless matter just as a starved cow or sheep will be. The farmer must learn to think of his land in this way or he gets a wrong idea of it. He must not neglect to study up the science of feeding his fields as he reads up that of feeding his live stock. He must become acquainted with feeding tables and rations and kinds of food for the land as well as for animals, and must provide them liberally. And as clover is accounted an excellent food for stock so it is an excellent food for land. But, at the same time, as there are other fodders which can be used along with clover, or as a substitute when helped out by more stimulating food, so there are other crops beside clover which may be made to serve as food for the soil. Indeed, the soil is not very exacting in this respect, although it will never give something for nothing, and always returns freely in exact proportion to what it receives and no more; but it is omnivorous and has an exceedingly strong digestion. So that the farmer cannot go astray if he will always provide something for it. It may be weeds and no more, but it is better if it is a crop of buckwheat, and better still if it is rye or corn or even turnips or rape, but best of all if we can give it rich clover which goes down deeply and draws food from the subsoil and opens its broad leaves to the air and gathers from that source too, as well as others which other plants cannot reach, and so gives the farmer a hundred fold in return for the seed and labor he has expended. There are other ways of manuring the soil, but among them plowing in of green crops has no superior.—*New York Times.*

### Farm and Garden Notes.

Dr. Caldwell speaks very highly of oatmeal as food for milch cows.

Money spent in paint for farm buildings and implements is money saved.

It will pay everybody who keeps hens to provide them with plenty of clean water or milk at this season.

It is a mistaken notion that any soil is good enough for beans. Beans require good soil well prepared for paying results.

Have a big, cheap wash boiler. Put it on a back kitchen stove, with soft water. Into this put all the bones, potato peelings, bread scraps, gravy, meat, vegetables, etc., that comes from your table. Add any food—corn, rye, barley, meal—for chickens that you may happen to have. Add also red pepper and salt. Dump this into a trough for your chickens while the heat of the boiling has not gone out of it. Crack the bones and it will pay in eggs. We give this feed in the morning Some of our neighbors prefer it at night. We get the most eggs.

The *Country Gentleman*, reporting its experiments in sub-soiling during the past season, claims to have had best success with potatoes. With this crop the increase in yield over those planted in the ordinary manner was about thirty-three per cent. in quantity, while the quality was much improved, the tubers being larger, fairer and less affected with rot. The results with corn were less flattering, although an increase of about twenty per cent. was secured. The improvement in the crop of potatoes was certainly sufficient to make it worth while for farmers in general to give the plan a thorough trial. Small potatoes, cut, were used for seed.

To show how cold weather affects cows an intelligent dairy farmer mentions a case where a herd of cows, which had usually been supplied from troughs and pipes in the stalls, were, on account of an obstruction in the pipes, obliged to be turned out twice a day while the weather was cold to be watered in the yard. The quantity of milk instantly decreased, and in three days the falling off became very considerable. After the pipes were mended, and the cows again watered as before in their stalls the flow of milk returned. Cows when giving milk are more sensitive to the cold than when they are dry, and exposure to severe cold interferes with the secretion of milk.

If crops are not kept free from weeds fertilizers are lost or do more harm than good by furnishing food for the weeds. This was clearly shown by some recent experiments made by Sir J. B. Lawes, of Rothamstead, where a plat of mangels planted for forty years on the same ground was much more thrifty than the main crop, which had been heavily manured. The experimental plat was kept exceedingly clean, while in the main crop, owing to the wet season, the weeds were numerous.

It is an erroneous idea that corn alone is the best diet for pigs. It is too heating and is deficient in albuminoids. To correct this we must add an article, says the *Breeder's Gazette*, that will make up for the deficiency. For example, skim milk is highly nitrogenous and has nearly four per cent. of true albuminoids. Two and a third pounds of skim milk contain as much albuminous food as is found in one pound of corn. But we cannot always add milk. Linseed cake, meal or pea meal greatly increases the value of corn as a hog feed. The pig kept in a small pen, getting milk and table scraps, with a little corn, is noted for continued good health and even development.

### Household Hints and Recipes.

To make corn bread, take two cups of Indian meal, one teaspoonful of salt, two teaspoonfuls of baking powder, one cup of molasses, one quart of sweet milk, two eggs; stir with wheat flour about as stiff as for cake and bake in a deep dish.

Lemon cookies are made of one large cup of sugar, a little more than half a cup of butter, half a teaspoonful of soda dissolved in two teaspoonfuls of hot water; flavor with lemon, and use just flour enough so that you can roll the cookies out thin; bake in a quick oven.

An old-fashioned and toothsome spice cake is made of three pounds of seedless raisins, one and a half pounds of citron, two and a half coffee cups of sugar, two cups of sweet milk, four cups of flour, six eggs, two teaspoonfuls of baking powder, three teaspoonfuls of cinnamon and two of mace.

It is not generally known that when coffee beans are placed upon hot coals or upon a hot plate the flavor arising is one of the most effective and at the same time agreeable disinfectants. If no heat is obtainable, even the spreading of ground coffee on the object to be disinfected is most satisfactory.

For ham and eggs on toast, chop fine cold boiled or baked ham. Toast and butter slices of stale bread; crush the crust with a napkin to soften it. Spread with the ham and set in oven for three or four minutes. Beat six eggs with a half cupful of milk, a little pepper and salt. Put this in a saucepan and stir over the fire until it begins to thicken. Take off, beat well for a moment, spread over the ham on toast; serve hot immediately.

To clean stained wood-work which is also varnished, an old housewife recommends the saving of tea-leaves from the teapot for a few days. Drain them and when you have a sufficient quantity put them in clean, soft water; let them simmer for half an hour. When almost cold, strain them out, and, dipping a flannel cloth in the water, wipe off the paint, drying it with another flannel cloth. One cup of tea leaves to one quart of water is the due allowance.

### The Monkey Market in Rio.

From the poultry show it is but a step or so to the establishment of Senhor Jose Mattos Almeida de Ribiero Gomes Cavalho, whose place of business is so crowded with monkeys, marmosets, dogs and other little animals that may be converted into pets, that there surely cannot be much room left for his name. If you want to buy a monkey, Senhor J. M. A. de R. G. Cavalho can supply you with almost any kind from his extensive assortment. You can buy a dear, cute little pocket edition marmoset or a great, big, vulgar ape, that is good for nothing but for making a show of himself. Some of these diminutive monkeys are almost little enough to be used as watch-chain charms. Seeing us so interested in his stock-in-trade the monkey dealer tried to sell us a "critter," but we were long on monkeys at the time and wouldn't buy. The major intimated to the senhor that we would like to buy a few yards of his name, but as he said it in English the sarcasm was lost.

At another monkey store we had the pleasure of seeing how the wild "monks," fresh from their native jungles, are broken in for domestic use. This dealer, whose name I did not take time to copy, had just received a new lot of "missing-links," a whole box-full, probably his spring stock, and as we watched him opening and marking the goods we learned several things that would prove invaluable to us were we ever to go into the business. He would wrap his hands in a coffee sack and then carefully reach into the box for one of the uneasy little animals, who, having just come in from the country, felt backward at first contact with city society, and they had no better manners than to scream and attempt to bite the friends who were about to introduce them into metropolitan life. After some trouble and a lot of noise a little fellow is finally secured and brought out, all the while emitting ear-splitting, almost human screams. With their hands protected by the coffee sacks, two fellows hold the little creature while a third cuts off a foot or so of the monkey's long tail. This done, the man proceeds to adjust a leather collar on him, not around his neck, as would be the case with other animals, but about the smallest part of his body, which you may know is that portion of his anatomy just above his hind legs. This operation requires considerable time—more, really, than the "monk" feels able to spare, and he signifies his disapproval in shrill screams, which, in their agonizing tones, sound like the wail of a human baby. The strap is finally affixed in a scientific manner acceptable to the manipulator, and a chain is attached to it. Next, a number of little juicy green peppers, of the kind that I know by experience to be alfired hot, are put into the creature's mouth, and he is made to chew them sufficiently to get a full benefit of the hot lunch. After this he is chained to a cage. Now that the monkey is free from the hands of his tormentors he shows his fear and agony, superinduced by the rough treatment he recived and the peppers he had eaten, and makes frantic though futile attempts to commit suicide by hanging or butting his brains out on the boxes. After this it is supposed that the monkey becomes docile, and if he proves to be wicked or degenerate later in life he cannot lay the blame on the kind people who brought him from his forest fastness to dwell among people who are, according to an eminent scientist, but his four millionth cousins.—*Will Wayward.*

### Cold Winters.

The following statistics of the cold winters are curious: In 401 the Black sea was frozen over. In 768, not only the Black sea, but the straits of Dardanelles, was frozen over; the snow in some places rose fifty feet high. In 882, the great rivers of Europe—the Danube, the Elbe, etc.—were so hard frozen as to bear heavy wagons for a month. In 1860, the Adriatic was frozen. In 991, everything was frozen; the crops totally failed, and famine and pestilence closed the year. In 1067, the most of the travelers in Germany were frozen to death on the roads. In 1133, the Po was frozen from Cremona to the sea; the wine casks were burst, and even the trees split by the action of the frost with immense noise. In 1236, the Danube was frozen to the bottom, and remained long in that state. In 1316, the crop wholly failed in Germany; wheat, which some years before sold in England at 6 shillings the quarter, rose to £2. In 1339, the crops failed in Scotland, and such a famine ensued that the poor were reduced to feed on grass, and many perished miserably in the fields. The successive winters of 1432 '33 '34 were uncommonly severe. It once snowed forty days without interruption. In 1648, wine distributed to the soldiers in Flanders was cut with hatchets. In 1684, the winter was excessively cold. Most of the hollies were killed. Coaches drove along the Thames, the ice of which was eleven inches thick. In 1709 occurred the cold winter. The frost penetrated three yards into the ground. In 1716, booths were erected and fairs held on the Thames. In 1744 and 1745 the strongest ale in England, exposed to the air, was covered in less than fifteen minutes with ice an eighth of an inch thick. In 1809, and again in 1812, the winters were remarkably cold. In 1814 there was a fair on the frozen Thames.—*Scientific American.*

The noble mind may be clouded with adversity, but cannot be wholly concealed; for true merit shines by a light of its own, and, glimmering through the rents and crannies of indigence, is perceived, respected and honored by the generous and the great.

## "BLACK FLAGS" OF ANNAM.

### A REMARKABLE PEOPLE AND THEIR ABLE LEADER.

**Sudden Growth of a People Who Have Given the French Much Trouble—Their Origin.**

In an article on the Black Flags, the people of Annam who have given the French troops so much trouble, the Shanghai (China) *Shenpas* says:

Liu Yuen Fou was originally leader of a remnant of the Canton rebels (the Taepings). He is now over sixty years of age. He has a full face and manly figure. His beard and hair are like silver. His character is of the heroic order, combining in fair proportion sagacity and courage; and he possesses great administrative and organizing ability, by which he has gathered around him adventurous spirits from all quarters. Over twenty years ago, when the imperial troops defeated the Canton rebels, Liu, driven to extremities, took refuge in the northern borders of Annam. The king of Annam was feeble, and could not drive Liu and his gang out by force, so he sent a messenger to offer them protection. This Liu accepted.

At that time the Black Flag followers did not amount to more than a few thousands, and they made a treaty with the king of Annam by which they were allowed to cultivate the wild country among the mountains of Tien-fu-Chang on the understanding that they and the natives were not to molest each other. After three years of cultivation of the land they obtained still further recognition. Liu succeeded in gaining the favor of the king, who supplied him with oxen and seeds for cultivation. Liu made it his object to draw people to him by kindness and liberality. His good name was published from mouth to mouth everywhere, and multitudes gathered to his standard. The Yellow Flags and White Flags came in close succession, and many natives also gladly placed themselves under his protection. Liu made allotments of land to them all, that they might support themselves by farming. Thus the population grew and the extent of cultivated land increased. For more than 700 li (200 miles), east and west, there were continuous fields with farm-houses and agricultural towns of growing importance.

The expense of maintaining such a large population was very great and they were burdened by the taxation of the Annam government; so, after a period of seven years, they took it upon themselves to refuse further payment of taxes, and the King of Annam could not help himself. After this Liu undertook the government of his own territory. All matters of instruction and maintenance, all agricultural and military affairs, administration of justice, and public appointments, were duly arranged by himself. Punishments were strict and severe. They had beheading, hanging, rattaning, and beating, but no banishment or imprisonment. Each town had a civil and a military chief appointed over it, who superintended the agricultural operations and military drill of a certain number of men. The youths were taught to read, but not to any great extent—only enough to enable them to distinguish surnames and names, or to explain in a rough and general way.

The country they occupied consisted of forest and jungle, with deep ravines and water courses. The hills are infested by tigers and wolves. Wood gatherers never venture to go out except in companies. But no other kind of wild beast is so abundant as the monkey. In the stillness of evening, when no sound is heard but the purling of brooks, the monkeys come out in scores and hundreds, screeching and jumping and playing and chasing each other without end. There is a tree called the monkeys' provision tree, about ten feet high, growing all about the hills. Its fruit looks like a pomegranite, but it is hard and harsh, not eatable by men. The monkeys, however, eat it with great avidity. When the Black Flags went there first their chief article of cultivation was maize, and in late autumn, when the maize was ripe, each monkey would go to the field and pluck a head and put it under his arm, then, with insatiable greed, pluck another and let the first drop, and so on for a score of times, always cropping the last in its eagerness to take another. Acres of maize would be spoiled in this way in one night, until the people took measures to frighten the monkeys away.

Of late years the colony has enjoyed greater prosperity. The number of Black Flag people is over 80,000, of the Yellow Flag over 60,000, and those of the White Flag over 30,000. There are also natives of the place numbering more than 20,000. The whole population cannot be less than 200,000. The young men, from seventeen to twenty-four years of age, amounting to 20,000, are all swarthy, stalwart fellows, accustomed to scour the forest and spring the gorges with the agility of monkeys. Therefore they are fierce and daring in the extreme; nothing can stand before them, and, moreover, they are wonderfully smart and dextrous. Those young men make a formidable army. At present the old Black Flags occupy the mountain pass, which forms, as it were, their inner stronghold. To approach this it is necessary to pass over a succession of fine precipitous mountain ranges, which stand up like gigantic walls to hinder even the flight of birds.

There are also two great water barriers which the Black Flags have constructed by diverting the course of the Red river, and strong guards are stationed at all points within hail of each other. Beyond all these barriers is Tien-fu-Chang, with its wide streets—a great commercial center—the metropolis of the Black Flags. In Tien-fu-Chang there is a general yamen for the three Flags, and a separate yamen for each. Every person who wants to join them must give an account of his antecedents, and of his connections, if any, with the neighboring people, and must state which Flag he wants to join. Then he is taken to headquarters and examined as to his abilities, and admitted or rejected accordingly.

It is a fair, even-handed, noble adjustment of things, that while there is infection in disease and sorrow, there is nothing in the world so irresistably contagious as laughter and good humor.

The churches of New York cost $3,000,000 a year; the theatres $7,000,000, it is said.

## SELECT SIFTINGS.

Cows are still used to drag the plow in Central Germany.

There is said to be three cents' worth of gold in every ton of sea-water.

The game of draw-poker was invented about 1846 or 1847 by a noted Tennessee turfman named Kirkman.

The English sent all their fine goods to be dyed in Holland until the seventeenth century, when the art was brought to them.

Faustus, the professor of magic, on whose traditional adventures Goethe founded his poem, lived about the end of the fifteenth century.

Amber is a fossil resin, and is now known to be the resinous exudation from several species of extinct coniferous trees. Most of the amber of commerce is obtained from the shores of the Baltic.

In early times the method of executing criminals in Holland was to confine them solely to the use of bread in which no salt was contained, and which ultimately occasioned death by engendering a fatal form of disease.

The word meerschaum is a German compound, and means sea-foam. It is a mineral, and resembles chalk. It is found in Turkey, Greece, and Spain, where it is usually found in veins, as other minerals are.

### A Japanese Funeral.

If it were evening you might see a Japanese funeral procession, says a letter from Japan. The funerals here are always conducted at sunset, in accordance with a superstition that is rather beautiful than otherwise. The procession is headed by priests and a company of musicians, who play upon samisens and beat on tomtoms. The coffin is a wooden tub in which the deceased is squatting as he has lived, with his feet tucked under him. There is this difference, however. The face of the dead man is looking toward the north, whereas this position is religiously avoided by the living Japanese. Indeed, the points of the compass are frequently marked on the ceilings of sleeping rooms, that the sleeper may arrange his mats so as to avoid this unfavorable position. The wealthy class are buried in earthen jars instead of wooden tubs, but the mode of arrangement is the same. These peculiar-shaped coffins do not take up the space required by American caskets, and burial lots need not be so large. One priest in the procession carries an oblong table, containing the "dead name" of the deceased, and another bears the precious lotus blossom. If you follow the cortege, you will find your way into a surprisingly well-kept cemetery, with headstones all erect, and fresh flowers strewn upon most of the graves. Litanies are chanted and the body is lowered into a shallow grave lined with cement. Then a life-sized pink lotus plant is placed upon the fresh mound, a lacquer tray of bowls of tea or sake, beans and sweetmeats provided near by, and you walk away from the spot strongly moved by the solemn, unfamiliar spectacle.

The cellars under Philadelphia's new city hall are the largest in America, their area being four and a half acres.